

# Package ‘grnn’

July 22, 2025

**Title** General regression neural network

**Description** The program GRNN implements the algorithm proposed by Specht (1991).

**URL** <http://flow.chasset.net/r-grnn/>

**Version** 0.1.0

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**License** AGPL

**Collate** 'create.R' 'grnn-package.r' 'guess.r' 'kernel.R' 'learn.R'  
'smooth.R'

**NeedsCompilation** no

**Repository** CRAN

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## Contents

grnn-package . . . . .	1
guess . . . . .	2
learn . . . . .	3
smooth . . . . .	3

<b>Index</b>	<b>4</b>
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grnn-package	<i>GRNN</i>
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## Description

General regression neural network.

**Details**

The program GRNN implements the algorithm proposed by Specht (1991).

**Author(s)**

Pierre-Olivier Chasset

**References**

Specht D.F. (1991). A general regression neural network. IEEE Transactions on Neural Networks, 2(6):568-576.

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guess

*Guess*

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**Description**

Infers the value of a new observation.

**Usage**

```
guess(nn, X)
```

**Arguments**

nn	A trained and smoothed General regression neural network.
X	A vector describing a new observation.

**See Also**

[grnn-package](#)

**Examples**

```
n <- 100
set.seed(1)
x <- runif(n, -2, 2)
y0 <- x^3
epsilon <- rnorm(n, 0, .1)
y <- y0 + epsilon
grnn <- learn(data.frame(y,x))
grnn <- smooth(grnn, sigma=0.1)
guess(grnn, -2)
guess(grnn, -1)
guess(grnn, -0.2)
guess(grnn, -0.1)
guess(grnn, 0)
guess(grnn, 0.1)
```

```
guess(grnn, 0.2)
guess(grnn, 1)
guess(grnn, 2)
```

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learn	<i>Learn</i>
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### Description

Create or update a General regression neural network.

### Usage

```
learn(set, nn, variable.column = 1)
```

### Arguments

set	Data frame representing the training set. The first column is used to define the category of each observation (set category.column if it is not the case).
nn	A General regression neural network with or without training.
variable.column	The field number of the variable (1 by default).

### See Also

[grnn-package](#)

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smooth	<i>Smooth</i>
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### Description

Smooth a General regression neural network.

### Usage

```
smooth(nn, sigma)
```

### Arguments

nn	A trained General regression neural network.
sigma	A scalar.

### See Also

[grnn-package](#)

# Index

- \* **Neural**

  - grnn-package, [1](#)

- \* **Regression**

  - grnn-package, [1](#)

- \* **network,**

  - grnn-package, [1](#)

grnn (grnn-package), [1](#)

grnn-package, [1](#)

guess, [2](#)

learn, [3](#)

smooth, [3](#)